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 NEWS
       1
                  "Ask CAS" for self-help around the clock
NEWS
                  CASREACT(R) - Over 10 million reactions available
       3
          DEC 05
 NEWS
          DEC 14
                  2006 MeSH terms loaded in MEDLINE/LMEDLINE
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          DEC 14
                  2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER
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                  CA/CAplus to be enhanced with updated IPC codes
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                  IPC search and display fields enhanced in CA/CAplus with the
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                  IPC reform
          DEC 23
                  New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
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       8
                  USPAT2
                  IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
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                  New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
 NEWS 10
          JAN 13
                  INPADOC
                  Pre-1988 INPI data added to MARPAT
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                  IPC 8 in the WPI family of databases including WPIFV
 NEWS 12
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          JAN 30
                  Saved answer limit increased
                  Monthly current-awareness alert (SDI) frequency
          JAN 31
 NEWS 14
                  added to TULSA
               JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,
 NEWS EXPRESS
               CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
               V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
               http://download.cas.org/express/v8.0-Discover/
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INDEX '1MOBILITY, 2MOBILITY, ABI-INFORM, ADISCTI, AEROSPACE, AGRICOLA,
       ALUMINIUM, ANABSTR, ANTE, APOLLIT, AQUALINE, AQUASCI, AQUIRE, BABS,
       BIBLIODATA, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, BLLDB,
       CABA, CAOLD, CAPLUS, CASREACT, CBNB, CEABA-VTB, ...'
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138 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view search error messages that display as 0\* with SET DETAIL OFF.

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ALUMINIUM, ANABSTR, ANTE, APOLLIT, AQUALINE, AQUASCI, AQUIRE, BABS, BIBLIODATA,
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HEALSAFE, ICONDA, IFICLS, IFIPAT, IMSDRUGNEWS, INFODATA, INIS, INPADOC, INSPEC,
INSPHYS, INVESTEXT, IPA, ITRD, JAPIO, JICST-EPLUS, KOREAPAT, KOSMET, LIFESCI, LISA, MATBUS, MECHENG, MEDLINE, METADEX, NAPRALERT, NIOSHTIC, NLDB, NTIS,
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FILE 'MEDLINE' ENTERED AT 12:31:21 ON 15 FEB 2006

FILE 'CAPLUS' ENTERED AT 12:31:21 ON 15 FEB 2006 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS) FILE 'BIOSIS' ENTERED AT 12:31:21 ON 15 FEB 2006 Copyright (c) 2006 The Thomson Corporation => s raman (8a) (sequenc? (8a) (DNA RNA genom? "nucleic acid" polynucleotide oligo 2 FILES SEARCHED... O RAMAN (8A) (SEQUENC? (8A) (DNA RNA GENOM? "NUCLEIC ACID" POLYNUC L1LEOTIDE OLIGONUCLEOTIDE)) => s raman (8a) sequenc? 279 RAMAN (8A) SEQUENC? 1.2 => 12 and (DNA RNA genom? "nucleic acid" polynucleotide oligonucleotide) O L2 AND (DNA RNA GENOM? "NUCLEIC ACID" POLYNUCLEOTIDE OLIGONUCLEO L3 TIDE) => 12 and (DNA RNA genom? "nucleic acid" polynucleotide oligonucleotide nucleic) O L2 AND (DNA RNA GENOM? "NUCLEIC ACID" POLYNUCLEOTIDE OLIGONUCLEO T.4 TIDE NUCLEIC) => s 12 and (DNA RNA genom? "nucleic acid" polynucleotide oligonucleotide nucleic O L2 AND (DNA RNA GENOM? "NUCLEIC ACID" POLYNUCLEOTIDE OLIGONUCLEO L5 TIDE NUCLEIC) => s 12 and (exonuclease) L6 6 L2 AND (EXONUCLEASE) => d ti 1-6ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN L6 Methods and microfluidic apparatus for performing nucleic acid ΤI \*\*\*sequencing\*\*\* and detection using surface enhanced \*\*\*Raman\*\*\* spectroscopy ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN 1.6 Methods to increase nucleotide signals by Raman scattering TΙ ANSWER 3 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN L6 Methods and device for DNA \*\*\*sequencing\*\*\* \*\*\*Raman\*\*\* using TIspectroscopy ANSWER 4 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN L6 Methods and device for DNA \*\*\*sequencing\*\*\* using \*\*\*Raman\*\*\* TΙ spectroscopy ANSWER 5 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN L6 Methods and device for nucleic acid \*\*\*sequencing\*\*\* by detecting TΙ \*\*\*Raman\*\*\* labeled nucleotides cross-linked to silver or gold nanoparticles using Raman spectroscopy ANSWER 6 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN L6 Methods for nucleic acid \*\*\*sequencing\*\*\* by \*\*\*Raman\*\*\* ΤI monitoring => d scan 5 DISPLAY FORMATS NOT ALLOWED WITH SCAN IN A MULTIFILE ENVIRONMENT => d ab 5 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN L6

The methods and app. disclosed herein concern nucleic acid

\*\*\*sequencing\*\*\* by enhanced \*\*\*Raman\*\*\* spectroscopy. In certain embodiments of the invention, nucleotides are covalently attached to Raman labels before incorporation into a nucleic acid (13). \*\*\*Exonuclease\*\* (15) treatment of the labeled nucleic acid (13) results in the release of

\*\*\*exonuclease\*\*\* treatment are covalently

labeled nucleotides (16, 130), which are detected by Raman spectroscopy. In alternative embodiments of the invention, nucleotides released from a

\*\*\*Exonuclease\*\*\*

AΒ

nucleic acid by

cross-linked to silver or gold nanoparticles and detected by surface enhanced Raman spectroscopy (SERS), surface enhanced resonance Raman spectroscopy (SERRS) and/or coherent anti-Stokes Raman spectroscopy (CARS).

## => d his

L1

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L4

L5 L6 (FILE 'HOME' ENTERED AT 12:16:06 ON 15 FEB 2006)

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SEA ((RAMAN) (8A) ((SEQUENC?) (8A) ("NUCLEIC ACID" DNA RNA POLY

FILE 'MEDLINE, CAPLUS, BIOSIS' ENTERED AT 12:31:21 ON 15 FEB 2006

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- => d ti 1-36
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- L8 ANSWER 2 OF 36 MEDLINE on STN
- TI DNA topoisomerase I changes the mode of interaction between camptothecin drugs and DNA as probed by UV-resonance Raman spectroscopy.
- L8 ANSWER 3 OF 36 MEDLINE on STN

  TI \*\*\*Sequence\*\*\* dependent DNA conformations: \*\*\*Raman\*\*\*

  spectroscopic studies and a model of action of restriction enzymes.
- L8 ANSWER 4 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
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   \*\*\*sequencing\*\*\* and detection using surface enhanced \*\*\*Raman\*\*\*
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  TI Nucleic acid \*\*\*sequencing\*\*\* by \*\*\*raman\*\*\* monitoring of uptake
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- L8 ANSWER 6 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
- TI Methods to increase nucleotide signals by Raman scattering
- L8 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
  TI Methods and device for DNA \*\*\*sequencing\*\*\* using \*\*\*Raman\*\*\*
  spectroscopy
- L8 ANSWER 8 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
  TI Methods and device for DNA \*\*\*sequencing\*\*\* using \*\*\*Raman\*\*\*
  spectroscopy
- L8 ANSWER 10 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN TI Methods for nucleic acid \*\*\*sequencing\*\*\* by \*\*\*Raman\*\*\*

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- ANSWER 16 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  $r_8$
- Photo-induced bleaching and temporal stability of organic nonlinear ΤI optical materials in Langmuir-Blodgett films
- ANSWER 17 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN L8
- Combined Chemical and Raman Spectroscopic Determination of Microstructural ΤI Arrangement in Poly(2,5-benzophenone)s
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- The [Sn5]2- cluster compound [K-(2,2,2-crypt)]2Sn5. Synthesis, crystal ΤI structure, Raman spectrum, and hierarchical relationship to CaIn2
- ANSWER 19 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN L8
- Correlation between photo-induced bleaching and temporal stability on TΙ optical nonlinear Langmuir-Blodgett films
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- Detection of specific base sequences in DNA using probes bonded to noble TΙ metals and Raman spectrometry
- ANSWER 23 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN rs
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Background studies

- L8 ANSWER 31 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
- TI Pulse sequenced CARS: background suppression and nonlinear interferences
- L8 ANSWER 32 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
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- L8 ANSWER 33 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
- TI Dimethylgold(III) halides and pseudohalides. Reactions, Raman, infrared, and proton magnetic resonance spectra, and structure
- L8 ANSWER 34 OF 36 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
- TI DNA topoisomerase I changes the mode of interaction between camptothecin drugs and DNA as probed by UV-resonance Raman spectroscopy.
- L8 ANSWER 35 OF 36 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
- TI TYROSINE CODON CORRESPONDS TO TOPA QUINONE AT THE ACTIVE SITE OF COPPER AMINE OXIDASES.
- L8 ANSWER 36 OF 36 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
- TI STRUCTURAL CHARACTERIZATION OF FIBROBLAST HUMAN INTERFERON-BETA-1.
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7 S L2 (8A) (DNA OR RNA OR GENOM? OR "NUCLEIC ACID" OR POLYNU

8 S L2 (5A) (DNA OR "NUCLEIC ACID" OR ?NUCLEOTIDE?)

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L\*\*\*

T.\*\*\*

L\*\*\*

L8 ANSWER 8 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN AB The methods and app. disclosed herein concern nucleic acid

\*\*\*Raman\*\*\* \*\*\*sequencing\*\*\* by enhanced spectroscopy. In certain embodiments of the invention, \*\*\*exonuclease\*\*\* treatment of the nucleic acids 109 results in the release of nucleotides. The nucleotides may pass from a reaction chamber through a microfluidic channel and enter a nanochannel or microchannel. The nanochannel or microchannel may be packed with nanoparticle aggregates contg. hot spots for Raman detection. As the nucleotides pass through the nanoparticle hot spots, they may be detected by surface enhanced Raman spectroscopy (SERS), surface enhanced resonance Raman spectroscopy (SERRS) and/or coherent anti-Stokes Raman spectroscopy (CARS). Identification of the sequence of nucleotides released from the nucleic acid provides the nucleic acid sequence. embodiments of the invention concern app. for nucleic acid sequencing.

- ANSWER 10 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

  The disclosed methods, app. and compns. are of use for nucleic acid sequencing. More particularly, the methods and app. concern sequencing single mols. of single stranded DNA or RNA by exposing the mol. to 

  \*\*\*exonuclease\*\*\* activity, \*\*\*removing\*\*\* free nucleotides one at a 
  time from one end of the nucleic acid, and identifying the released 
  nucleotides by Raman spectroscopy or FRET.
- ANSWER 11 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN 1.8 The accurate detection of DNA sequences is essential for a variety of post AB human genome projects including detection of specific gene variants for \*\*\*sequence\*\*\* medical diagnostics and pharmacogenomics. A specific DNA \*\*\*Raman\*\*\* detection assay based on surface-enhanced resonance scattering (SERRS) and an amplification refractory mutation system (ARMS) Initially, generation of PCR products was achieved by using specifically designed allele-specific SERRS active primers. Detection by SERRS of the PCR products confirmed the presence of the sequence tested for by the allele-specific oligonucleotides. This lead directly to the multiplex genotyping of human DNA samples for the .DELTA.F508 mutational status of the cystic fibrosis transmembrane conductance regulator gene using SERRS active primers in an ARMS assay. \*\*\*Removal\*\*\* unincorporated primers allowed fast and accurate anal. of the three genotypes possible in this system in a multiplex format without any sepn. of amplicons. The results indicate that SERRS can be used in modern genetic anal. and offers an opportunity for the development of novel assays. This is the first demonstration of the use of SERRS in multiplex genotyping and shows potential advantages over fluorescence as a detection technique with considerable promise for future development.
- ANSWER 12 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN L8 The accurate detection of DNA sequences is essential for a variety of post AΒ human genome projects including detection of specific gene variants for \*\*\*sequence\*\*\* medical diagnostics and pharmacogenomics. A DNA detection system based on surface enhanced resonance \*\*\*Raman\*\*\* \*\*\*sequences\*\*\* scattering (SERRS) using specifically designed primer that had been chem. modified to make them SERRS active in an ARMS assay, is reported. This lead directly to the multiplex genotyping of human DNA samples for the DF508 mutational status of the cystic fibrosis transmembrane conductance regulator gene using SERRS. \*\*\*Removal\*\*\* of the unincorporated primers allowed fast and accurate anal. of the three genotypes possible in a multiplex format without any sepn. of amplicons. This is the first demonstration of the use of SERRS in multiplex genotyping and shows potential advantages over fluorescence as a nucleic acid detection technique with considerable promise for future development by applying chem. manipulation to a phys. technique.

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L1

L2

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SEA ((RAMAN) (8A) ((SEQUENC?) (8A) ("NUCLEIC ACID" DNA RNA POLY

FILE 'MEDLINE, CAPLUS, BIOSIS' ENTERED AT 12:31:21 ON 15 FEB 2006

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279 S RAMAN (8A) SEQUENC?

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L4	O L2 AND (DNA RNA GENOM? "NUCLEIC ACID" POLYNUCLEOTIDE OLIGONUCLE
L5	O S L2 AND (DNA RNA GENOM? "NUCLEIC ACID" POLYNUCLEOTIDE OLIGONUC
L6	6 S L2 AND (EXONUCLEASE)
L7	O S L2 AND (EXONUCLEASE DIGEST? DEGRAD? REMOV? CUT? CLEAV? NUCLEA
L8	36 S L2 AND (EXONUCLEASE OR DIGEST? OR DEGRAD? OR REMOV? OR CUT?
L***	12 S L2 AND (DNA OR RNA OR GENOM? OR "NUCLEIC ACID" OR POLYNUC
L***	7 S L2 (8A) (DNA OR RNA OR GENOM? OR "NUCLEIC ACID" OR POLYNU
T.***	8 S I.2 (5A) (DNA OR "NUCLEIC ACID" OR ?NUCLEOTIDE?)

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